

Section 5 Background Summary and Predictive Model

5.1 Kalihi and Kapālama

Based on background research and settlement pattern analysis, the primary area of traditional Hawaiian settlement and intensive agriculture within Kalihi and Kapālama seems to have been in the coastal plains and lower valleys, as well as pockets within upper Kalihi Valley. Seaward areas also contain evidence of burial practices, fishpond aquaculture, habitation, and limited agriculture. In the beginning of the twentieth century, the low-lying taro lands and fishponds were filled to provide new land for railroad infrastructure, industrial parks, and housing subdivisions. Kalihi and Kapālama became early suburbs of the urban center at Honolulu. This land “reclamation” and subsequent urban development would have destroyed and/or buried any surface archaeological cultural resources that may have been present. However, historic documentation (LCAs and maps) and previous archaeological finds suggest it is possible that pre- and post-Contact subsurface cultural deposits associated with habitation, aquaculture, and burials are present beneath historic and modern fill layers.

Many LCAs are either within or in the immediate vicinity of the Kalihi-Kapālama portion of the study corridor (see Figure 9, Table 1, and Figure 13). Traditional Hawaiian land use indicated in the LCA documentation consists of habitation, irrigated taro fields (*lo‘i*), *kula* (dry land plots used for cultivation and/or pasture), and aquaculture via fishponds. Kuleana land claims are clustered in the vicinity of Kalihi and Niuhelewai Streams. Of note is that the locations of both the Middle Street Transit Center and Kapālama Station are bisected by these streams—the Middle Street Transit Center by Kalihi Stream and the Kapālama Station by Niuhelewai Stream. Niuhelewai Stream is of particular interest, as it is mentioned as the site where the Maui Chief Kahekili defeated Kahāhana of O‘ahu (Alexander 1891:123); and is noted as being “choked up with the corpses of the slain” (Alexander 1891:123).

Commercial development in coastal Kalihi and Kapālama primarily occurred prior to the late 1970s, when archaeological investigation became standard during construction activities. As a result, few archaeological studies have been conducted in this area. However, three archaeological investigations have been conducted in the vicinity of the study corridor (Dega and Davis 2005; Folk et al. 1993; and Hammatt and Shideler 2002), two in the vicinity of the proposed Middle Street Transit Center (see Figure 72 and Table 7). Documented archaeological cultural resources in the general vicinity of the Kalihi-Kapālama portion of the study corridor include a post-Contact subsurface refuse pit (SIHP #50-80-14-6683) (Dega and Davis 2005); a post-Contact cultural layer containing marine shell midden, charcoal, and three human burials (SIHP #50-80-14-4525) (Folk et al. 1993); an *in situ* flexed, most likely Hawaiian, burial (SIHP #50-80-14-5581) of post-Contact origin (pre-WWI) (Moore and Kennedy 1999); and the fragmentary remains of what appear to be five post-Contact individuals (Dunn et al. 1991).

Based on a review of historic documentation and previous archaeological research, anticipated cultural resources within the vicinity of the Kalihi-Kapālama portion of the study corridor could include both pre- and post-Contact subsurface cultural deposits, including human burials, artifact and midden deposits, trash pits, privies, buried structural foundations, fishpond sediments, and agricultural sediments (e.g. *lo‘i*).

5.2 Downtown Honolulu

Background research and settlement pattern analysis of Nu‘uanu and Pauoa Ahupua‘a indicate that the area of Downtown Honolulu was intensively used by pre-Contact and early post-Contact Hawaiians for agriculture, aquaculture, and habitation. Agriculture and habitation continued up through the wide lower area of Nu‘uanu Valley, as well as into several smaller side valleys, and significantly back into the narrow Pauoa Valley. Previous archaeological investigations have identified numerous pre-Contact subsurface cultural deposits in the Downtown Honolulu portion of the study area, providing further evidence of the extensive traditional Hawaiian activity in this area.

Historic accounts by Don Francisco de Paula de Marin indicate that by 1810 a village of several hundred native dwellings surrounded the grass houses of Kamehameha on Pākākā Point, near the foot of what is now Fort Street (Gast and Conrad 1973). Marin’s account reflects the integration of traditional Hawaiians and Westerners during this period. Around half of the LCAs identified within this portion of the archaeological study area were awarded to foreigners, which emphasizes the cosmopolitan nature of this area.

During the second half of the nineteenth century, the waterfront of Honolulu changed significantly. At the peak of the whaling industry, around 1850, the Honolulu Harbor area became crowded with trading and whaling vessels, and required additional wharfs to accompany them. Between 1857 and 1870, 22 acres of reef land between Fort and Alakea Streets were filled with material dredged from the harbor. The urban development of the Downtown waterfront and surrounding areas in the nineteenth and twentieth centuries involved extensive filling associated with the development of harbor infrastructure, industrial subdivisions, and commercial districts. (Note: these old “pre-reclamation” shorelines of Iwilei, Honolulu, and Kaka‘ako are depicted in relation to the current archaeological study corridor in the figures of Section 3 - Settlement Pattern Analysis). These land reclamations and subsequent urban development would have destroyed and/or buried any surface archaeological cultural resources that may have been present within this area. However, historic documentation (LCAs and maps) and previous archaeological finds suggest that archaeological resources in the form of subsurface cultural deposits are present beneath historic and modern fill layers.

A number of LCAs are either within or in the immediate vicinity of the Downtown Honolulu portion of the study corridor (see Figure 23 and Table 3). The only break in the LCA distribution in this area is between the proposed Iwilei and Chinatown Stations, which was the former location of Kuwili and Kawa fishponds, thus emphasizing the population density within this portion of the study area. LCA documents indicate that LCAs in the Downtown Honolulu area were awarded to a variety of Native Hawaiians and foreign settlers who had moved into Honolulu as the city developed. All of the LCAs in the vicinity of the study area were small awards consisting of house lots and/or *lo‘i* (see Figure 23 and Table 3).

Previous archaeological research has confirmed the findings of historic research through the identification of numerous subsurface cultural deposits along the Downtown Honolulu waterfront. These cultural deposits provide continued evidence of both pre- and post-Contact land use in the form of human burials, traditional Hawaiian artifacts, historic refuse, midden, historic building foundations, fishponds, and agricultural (e.g. *lo‘i*) sediments.

Based on a review of historic documentation and previous archaeological research, anticipated cultural resources within the Downtown Honolulu portion of the study area could include both pre- and post-Contact subsurface cultural deposits. It is also anticipated that pre-Contact subsurface deposits could include human burials, fishpond sediments, alignments and/or walls associated with habitation or cultivation, and buried living and work surfaces containing midden, artifacts, and hearth features. Post-Contact subsurface deposits could include human burials, trash pits, privies, building foundations, and Honolulu Rapid Transit & Land Ltd. streetcar infrastructure.

5.3 Kaka'ako

From pre-Contact times into the early 1900s, Kaka'ako was considered separate from the two main population centers of the region, Honolulu and Waikīkī. It was sparsely populated and characterized by a dry plain dotted with fishponds and salt pans. An 1883 map of the Honolulu Water Works System indicates that large portions of the Kaka'ako section of the study area were within areas formerly characterized by inland ponds and salt pans (see Figure 42). Makiki Ahupua'a, of which the present-day district of Kaka'ako formed the coastal portion, contained few areas of concentrated agriculture and development, located primarily within the lower reaches of its shallow valleys and narrowly along Makiki Stream.

LCA testimony in the mid-nineteenth century indicates that much of Kaka'ako lands were awarded to the *ali'i* (high ranking retainers) as fort lands to support soldiers in Honolulu; to the American Board of Commissioners for Foreign Missions for salt making lands; and to *maka'āinana* who claimed small house lots adjacent to fish or salt ponds. A review of historic maps of Kaka'ako indicate a number of LCAs in the vicinity of the study corridor (see Figure 38 and Table 4). Most of these LCAs were awards containing house lots, *lo'i*, and ponds (used for salt procurement or aquaculture).

Background research has indicated that in the early 1900s, Kaka'ako was used as a place for cemeteries and quarantine of medical patients, then became an area for dumping sewage and burning garbage, and finally was used as housing or for commercial purposes.

Previous archaeological research within Kaka'ako has been extensive due to modern redevelopment of the area. As a result, approximately 40 percent of the Kaka'ako portion of the study area has already been subjected to archaeological study (see Figure 74, Figure 75, and Table 9). Previous archaeology has shown that much of the sediments in the area consist of fill layers, which sometimes extend down to the water table. However, naturally deposited sediments (i.e., Jaucas sands, as well as marine and alluvial clays) have been observed intact below the fill layers. Of note is the presence of buried sand dunes or berms, which, based on previous archaeological research, are the preferred location for burial, especially for Native Hawaiians.

Archaeological cultural resources identified within or in the immediate vicinity of the Kaka'ako portion of the study corridor consist of subsurface cultural layers containing evidence of both pre- and post-Contact land use. Of note is the large number of human burials in this area, including traditional Hawaiian burials of pre- and early post-Contact origin, historic cemeteries using western burial practices (i.e., extended burial position with coffin), and mass burials associated with smallpox epidemics.

Based on a review of historic documentation and previous archaeological research, anticipated cultural resources within the vicinity of the Kaka'ako portion of the study corridor would include both pre- and post-Contact subsurface cultural deposits. Pre-Contact subsurface deposits include human burials; fishpond sediments; alignments and/or walls associated with fishponds and salt procurement; and buried living surfaces containing midden, artifacts, and hearth features. It was also anticipated that post-Contact subsurface deposits would include human burials, trash pits, privies, incinerated burn layers, and building foundations.

5.4 Kālia

The most notable study in the Kālia portion of the transit project was the Walmart/Sam's Club case that identified a minimum of 64 sets of human skeletal remains (SIHP #50-80-14-6516, -6661, and -6662) that were observed in six areas roughly along the southeast side of Sheridan Street (see Figure 76). The burials appear to represent both pre-Contact and post-Contact burials. It appears that these burials were related to a relatively narrow area of relatively higher ground that was the focus of LCAs, habitation, and burial, upon which Sheridan Street was built. The identification of a human bone (Smith 1989) on the *makai* side of Kapi'olani suggests the possibility that further finds of human skeletal remains might occur in this area.

Other than the Walmart finds few finds, other than mid-twentieth century trash, have been reported. So much of the natural land surface of western Kālia appears to have been so close to the water table as to have been unlikely locations for habitation or burial.

5.5 Predictive Model for Human Skeletal Remains

Concerns over the possibility of encountering burials (*iwi kūpuna*) merit further effort to summarize prior burial finds. Table 11 summarizes the available data. The locations of the burial finds are depicted on Figure 77 and Figure 78.

No human skeletal remains have been reported in close proximity (200 m to either side) of the project alignment west of Nu'uuanu Stream. This condition changes almost immediately upon crossing to the east of the stream, with the burial find reported in Landrum and Dixon (1992). Several burial finds have been reported in seaward downtown (Goodwin et al. 1995), but it may be the case that the study corridor is so far seaward (often on fill lands that appear to have been ocean shallows into the late 1800s) as to be largely or completely seaward of the downtown burials.

The vicinity of the study corridor extending east from Punchbowl Street to Pi'ikoi Street has, by far, the highest density of burials along the entire study corridor.

Only one human bone fragment has been reported from east of Pi'ikoi Street near the project alignment (Smith 1989), but there was a find at Pi'ikoi Street and Kapi'olani Boulevard, and the Walmart cemetery was not much farther inland. Thus, this stretch of the study corridor is also an area of heightened concern.

The shallow depth of burial finds is notable. While the Landrum and Dixon (1992) burial find was at a depth close to 2.5 m, the vast majority of burial finds have been at a depth of around 1 m below present ground surface (such as the Dagher and Spear 2007 burials).

Few if any burials would be expected west of Nu‘uanu Stream but there is a significant likelihood of burials east of Nu‘uanu Stream particularly in western Kaka‘ako.

Table 11. Previously Reported Discoveries of Human Skeletal Remains near the City Center Project Area (from west to east)

General Location	Reference	Site # 50-80-14-	Depth (cmbs)	How Found	Burial Condition	Burial Traits	Condition/ Preservation	Pre-Contact/ Post-Contact	MNI	Description of Find
Approx. 300 m NE of Middle Street Transit Center building entrance	Folk, Crotty, and Hammatt 1993	-4525	60-110	AIS with subsurface testing	In situ (3)	Coffin (2); unknown (1)	Intact (3)	Post-Contact	3	Three human burials were discovered in a post-Contact graveyard site. Two were interred in simple redwood coffins. Another appeared to have been placed directly in the ground. Age of burials is post-1778 (probably post-1820 but prior to 1900).
Pier 40 (approx. 700 m SW of project alignment)	Moore and Kennedy 1999	-5581	Approx. 75	Inadvertently discovered during construction activities associated with the Pier 40 Shed and Landslide Improvements Project	In situ	Flexed	Intact	Post-Contact	1	Documentation of a single, in situ, flexed burial within naturally deposited alluvial sediments overlying coral limestone. Burial was oriented 340/20 degrees mN. Due to presence of historic materials in the associated stratigraphic layer, it was determined that the burial was of post-Contact origin (pre-WWI) and most likely Native Hawaiian.
Austin Lane, 290 m NE of project alignment	Jourdane 1994	-4929	Approx. 60	Inadvertently discovered during construction excavations for a water line	Disturbed	Unknown	Dispersed; fragments	Post-Contact	1	Burial appeared to be post-Contact due to the presence of associated historic material. Burial context was possibly previously disturbed by previous construction/maintenance activities.
Palama Chevron Station (SW corner of N King St. and Robello Ln.) (approx. 200 m NE of project alignment)	Dunn, Kalima, Kalima, and Goodfellow 1991	-3373	120	Backhoe test excavation in an area scheduled for future pipeline trenching	Scattered	Unknown	Dispersed; fragments	Post-Contact	2	A comingled scatter of fragmentary human remains was identified. The presence of associated historic artifacts indicates post-Contact origin. The skeletal remains represented at least two adults, one male and one female (MNI = 2), of unknown ethnicity. Dispersed cranial fragments and long bones were also discovered in other locations.. Some of the cranial fragments were associated with a rosary and other historic remains.
Kekaulike Revitalization Project, Ewa Block (145 m E of project alignment)	Kennedy et al. 1994	-4588	Depths reported for two burials: 50 and 200	AIS with subsurface testing	In situ	Flexed (1); unknown (2)	Intact (1); dispersed; fragments	Pre-Contact (1); post-Contact (1)	3	Three in situ burials were identified. One flexed burial (pre-Contact), one heavily disturbed by excavation (post-Contact, based on historic artifacts in stratum) and one too deteriorated to determine position of interment but also determined to be post-Contact.

General Location	Reference	Site # 50-80-14-	Depth (cmbs)	How Found	Burial Condition	Burial Traits	Condition/ Preservation	Pre-Contact/ Post-Contact	MNI	Description of Find
River St.-Nimitz Hwy. re-development project–E corner of River St. and Nimitz Hwy. (within 100 m of project infrastructure)	Landrum and Dixon 1992	-4192	200-230	Monitoring subsurface construction activities	In situ	Flexed (1)	Intact	Pre-Contact	1	Excavation uncovered a single pre-Contact, flexed, traditional Hawaiian human burial. The individual was positioned on its back and had been deposited in a shallow, marshland environment. The burial was overlain by pump dredge and historic fill. Braided cordage and soft tissues, including cranial tissue, were preserved.
Kekaulike Diamond Head Redevelopment project area (170 m E of project corridor, 125 m E of Chinatown Station)	Erkelens et al. 1994	-4875	25-50	AIS	Secondary	Re-deposited	Partial; fragments	Post-Contact	4	Remains of at least three individuals were found in a secondary context, including one male (24-30 yrs, possible Asian/Hawaiian), one female (15-18 yrs, probable Hawaiian/Polynesian), and one child (2.5-4 yrs, Asian). The remains and mixed historic artifacts had been deliberately re-deposited during construction of a post-1900 waterline. Fetal remains were discovered separately in a large refuse deposit dating between 1850 and 1880.
Kekaulike Diamond Head Redevelopment project area (170 m E of project corridor, 125 m E of Chinatown Station)	Goodwin 1997	-4875	25	AIS	Unknown	Unknown	Partial	Unknown	1	Human remains, possibly pre-1850.
Near the corner of Maunakea St. and King St. (approx 150 m NE of project alignment)	Elmore and Kennedy 2001	-5781	90-110	Inadvertently found during subsurface construction associated with sidewalk improvements	In situ	Flexed (1)	Intact	Pre-Contact	1	One pre-Contact burial in a flexed position, interred face-up, with cranium facing NW. There were no associated artifacts, and no burial pit was identified in the stratigraphy.
Marin Tower property bounded by Maunakea, King, and Smith Sts. and Nimitz Hwy. (the nearest burials appear to have been approx. 60 m NE of Nimitz Hwy.)	Goodwin et al. 1995	-4494	Some 2-10 cm below asphalt substrate	Archaeological data recovery field operations	In situ (13); disturbed (2)	Coffin (14); unknown (1)	Intact (11); partial (3); dispersed (1)	Post-Contact	15	This study documented 15 post-Contact burial features and the remains of 13 discoveries of “isolates” (displaced human skeletal remains). The burials are associated with the Marin family, and probably date to sometime between 1810 and 1850. Burials include 5 males, 5 females, and 3 infants, and are divided into two blocks. Block I may be associated with servants of Hawaiian descent. Block II may be associated with the Marin family itself.

General Location	Reference	Site # 50-80-14-	Depth (cmbs)	How Found	Burial Condition	Burial Traits	Condition/ Preservation	Pre-Contact/ Post-Contact	MNI	Description of Find
Pacific Town Gateway Center Project on N. King St. (107 m NE of project alignment)	Dagher and Spear 2007	-6889	97-142	Monitoring of construction activities Pacific Town Gateway Center Project on N. King St.	In situ (2)	Flexed or semi-flexed (1); flexed (1)	Partial (1); intact (1)	Pre-Contact or Traditional	2	Two traditional-style burials (either flexed or semi-flexed) located at the interface of a very thin layer of clay and the underlying coral limestone. Burial I consisted of a Polynesian adult male, at least 25-30 years of age. Burial II consisted of a Polynesian adult female. There were no associated artifacts, and no burial pit was identified in the stratigraphy.
Pearl Street One project at the corner of Nu‘uanu Avenue and Pauahi Street (408 m E of the project alignment)	McIntosh and Cleghorn 2005	-6772	No depths available	Inventory survey excavations	Disturbed (2)	Unknown	Dispersed (1); isolated bone (1)	Likely pre-Contact	2	Burial 1 was a single adult disturbed during historic time by the excavation for a trash pit. Burial 2 consisted of an isolated mandible fragment with a juvenile molar found during the inventory of skeletal remains for Burial 1.
Block 10 project at the Smith-Beretania Parking lot (405 m E of the project alignment)	Cleghorn et al. 2012	-6691	23 cmbd; 90-107 cmbd	Data Recovery investigations	Intact (2)	flexed (1); Coffin (1)	In situ	Post-Contact (1); pre-Contact (1); Post-Contact (1)	2	Burial 1 was a small child (less than 10 years of age) in a flexed position with 3 associated shell fishhooks. Burial 2 was an adult individual coffin burial.
Harbor Court property bounded by Queen, Bethel, Merchant Sts. And Fort St. Mall (65 m E of the project alignment)	Hurst and Allen 1992; Lebo 2002	-2456	Data not provided	Monitoring of construction activities	In situ (5); 2 previously disturbed;	Data not provided	Partial (5); Complete (1)	Data not provided	6	Six burials of likely Polynesian ancestry were identified: 4 adult females (varying between 18-25 and 25-35 years of age), an adult male (25-35 years of age), and a subadult (8-12 years of age). One of the female burials evidenced tooth evulsion. The subadult burial was missing the skull and leg bones (believed to be evidence of the Hawaiian practice of retrieving the bones of loved ones as keepsakes).
The grounds of the Hawai‘i State Capitol Complex and Dept. of Agriculture Building (80 m NE of project alignment)	Denham and Kennedy 1993	-4605	90-100	Monitoring of construction activities associated with Phase III telecommunication conduits	In situ	Unknown	Fragments	Unknown	1	SIHP #50-80-14-4605 was a multi-component site that included postholes, a fire pit, a pit, a ditch, a historic trash pit, and a human burial. The burial was destroyed during excavation. Fragmentary foot and leg bones remained in situ. C14 from a feature above the burial dated from AD 1390-1700. C14 from a feature below the burial dated from AD 860-1330.

General Location	Reference	Site # 50-80-14-	Depth (cmbs)	How Found	Burial Condition	Burial Traits	Condition/ Preservation	Pre-Contact/ Post-Contact	MNI	Description of Find
State Office Building Complex: Building # 2 (SE side of Punchbowl St. between Halekauwila and Queen Sts.) (25 m NE of project alignment)	Ota and Kam 1982	-2963	No depths available	Uncovered by construction workers who contacted Dept. of Accounting and General Services	Disturbed	Unknown	Fragments; poor condition	Unknown	6	Remains were recovered by Borthwick Mortuary. They included six partial burial sets, including 2 adults and 1 sub-adult. Tooth evulsion indicates probable pre-Contact to 1850 date. Two of the individuals are possibly Hawaiian based on evulsed incisors. One individual exhibited osteoarthritis.
Makai Parking Garage, corner of Punchbowl and Halekauwila Sts.	Clark 1987	-2963	Four at 10-50; two at 40-118	Monitoring of construction activities	In situ	Flexed; pit; bundled; and unknown	Intact (4); fragments (3)	Pre-Contact	5-7	Excavation identified 4 intact burials and some scattered remains, all probably dating to pre-1850. Five individuals were identified as Hawaiian adults, including 2 females and 3 males. Burials included a male, 50-70 yrs, flexed in a pit; a female, 30 + yrs, flexed; a female, 25-30 yrs, bundled in a pit; and a male, 20-25 yrs, in a previously disturbed pit. Scattered remains of a Hawaiian male, 20-30 yrs, as well as separate isolated finds of a cranium and femur were documented.
South St. Building Complex, W corner South St. and Quinn Ln. (30 m NE of project alignment)	Avery and Kennedy 1993	-3712/-4531	65-130	3 burials inadvertently discovered during subsurface construction activities; 6 found during monitoring	In situ	Extended pit (3); flexed (1); unknown (2)	Intact; good condition	Post-Contact	9	Nine in situ, post-Contact burials were identified. Individuals may have been interred in Honuakaha Smallpox Cemetery during the epidemic of 1853/1854. Remains were near an early twentieth century trash pit. Additional fragmentary remains were discovered dispersed in the fill layer, disturbed by previous construction. Artifacts were found in two of the graves; one extended burial contained a dog tooth pendent, a gold earring, and a bead necklace. A second burial contained 12 buttons.
Honuakaha Housing Project (Honolulu Brewing Site) (70 m NE of project alignment)	Winieski, Kalima, and Hammatt 1996	-3712/-4531	60-150	Construction activity and archaeological monitoring	In situ	Coffin (15); extended (All)	Intact; good condition	Post-Contact	27	Post-Contact burials of nearly 30 individuals were recovered from the Honuakaha Housing Project Site. There were 21 individual burials, as well as several loci of scattered remains. All intact burials were in an extended position, most with coffins (15). The individuals died during the smallpox epidemic in 1853/1854.
Corner of Punchbowl and Pohukaina Sts. (218 m SW of project alignment)	Yent 1985	-2918	20 and 70	Construction activities	In situ	Extended pit	Intact; good condition	Unknown	6	Six human burials were identified in pits in a sandy layer. Two were specifically mentioned in the report and documented as extended; Burial 6 was associated with an older adult female.

General Location	Reference	Site # 50-80-14-	Depth (cmbs)	How Found	Burial Condition	Burial Traits	Condition/ Preservation	Pre-Contact/ Post-Contact	MNI	Description of Find
Near intersection of S King and Punchbowl Sts. (King St. Rehabilitation Project) (385 m NE of project alignment)	Mann and Hammatt 2002	-6371	63	Archaeological monitoring	In situ	Unknown	Fragments	Unknown	1	Excavation uncovered a single burial, aged 15-21 yrs, and a pit feature containing non-human remains. Only the ribs and pelvic bones were discovered in situ. Their orientation suggested that the head faced NW. Historic artifacts such as a porcelain button and a blue glass marble were recovered from the same stratum, but with no association.
Near corner of Punchbowl and King Sts. (340 m NE of project alignment)	Pfeffer, Borthwick, and Hammatt 1993	-4532	Approx. 100	Monitoring for Kaka‘ako ID-1	Disturbed	Unknown	Partial; poor condition	Post-Contact	1	A single partial burial, post-Contact, in poor condition was documented. Historic accounts record the hanging of a Mr. Kamanawa who was buried under the corner of Punchbowl and King Sts. This position closely matches the remains.
Queen St. E of Punchbowl St. (<i>makai</i> portion of former Kawaiaha‘o Cemetery) (200 m <i>mauka</i> of project alignment)	Pfeffer, Borthwick, and Hammatt 1993	-4534	45-197; average: 120	Monitoring for Kaka‘ako ID-1	In situ	Coffin (105); small box (4); ground (2); unknown (5)	Intact; poor condition	Post-Contact	116	116 historic burials in Kawaiaha‘o Cemetery within Queen St. (used from 1825-1920). Burials were interred in pits dug and refilled with natural cinder. Most burials were Hawaiian, had coffins, and were in an extended position. Salt was packed in intestinal cavity of several burials, a traditional Hawaiian practice.
Juncture of Quinn Ln. and South St. (50 m <i>mauka</i> of project alignment)	Pfeffer, Borthwick, and Hammatt 1993	-3712	90-120	Monitoring for Kaka‘ako ID-1	In situ	Coffin (18); ground (5); unknown (8)	Intact; good condition	Post-Contact	31	31 burials were documented from the 1853/1854 Honuakaha Smallpox Cemetery at Quinn Ln. in a sand layer. 18 burials had wooden coffins. The remains were of Polynesian ancestry, and the majority were adults. Burials appeared to have been interred in a short period of time (due to smallpox epidemic). Included 12 males, 14 females, and 3 unknown. Age ranged from 19–35 yrs.
On Halekauwila St. (41.2 m W of South St.–in close proximity to project alignment)	Pfeffer, Borthwick, and Hammatt 1993	-4533	Approx. 100	Monitoring for Kaka‘ako ID-1	In situ	Extended	Intact; good condition	Pre-Contact	1	One pre-Contact, fully extended burial of a male adult, aged 50 yrs. Burial was oriented NW-SE in a sand layer. Recovered goods included 11 basalt sling stones and other pre-Contact artifacts; removed to Bernice P. Bishop Museum.
<i>Mauka</i> side of Ala Moana Blvd., near Auahi and Kamake‘e Sts.	Souza et al. 2002	-6376	Unknown	Monitoring for Kaka‘ako ID-7	Disturbed	Unknown	Fragments	Undetermined	1	Burial consisted of a single cranial vault discovered in backdirt at base yard.
W side of Kamake‘e St., near Queen St.	Souza et al. 2002	-6377	120	Monitoring for Kaka‘ako ID-7	In situ	Flexed	Partial; good condition	Undetermined	1	Burial was located in situ in beach sand, oriented east with feet facing south.

General Location	Reference	Site # 50-80-14-	Depth (cmbs)	How Found	Burial Condition	Burial Traits	Condition/ Preservation	Pre-Contact/ Post-Contact	MNI	Description of Find
E side of Kamake‘e St. between Waimanu and Kawaiahao Sts.	Souza et al. 2002	-6378	Unknown	Monitoring for Kaka‘ako ID-7	Disturbed	Unknown	Fragments	Undetermined	1	Fragmentary remains discovered in backdirt at base yard from an adult, possibly female, in their 20s/30s.
Under W sidewalk on Keawe St., NE of Halekauwila St. intersection (Kaka‘ako Improvement District 3 area) (in the project alignment)	Winieski and Hammatt 2000a	-5820	Burial 2 at 60	Backhoe excavations	In situ (1); disturbed (1)	Flexed (1); unknown (1)	Intact (1); fragments (1)	Pre-contact (1); unknown (1)	2	Two burials were uncovered. One was an isolated cranium and long bone fragments. The second was a juvenile female in beach sand, in a flexed position and oriented in a north-south direction.
NE corner of Keawe and Halekauwila Sts. (Kaka‘ako Improvement District 3 area) (in the project alignment)	Winieski and Hammatt 2000a	-5820	115	Construction excavations	In situ (1)	Flexed (1)	Partial (1)	Pre-Contact (1)	1	One burial was uncovered. Although heavily disturbed by backhoe excavation, the in situ remains suggested flexed internment in beach sand.
Pohulani Elderly Rental Housing, <i>makai</i> side of Queen St. between Keawe and Coral Sts. (Kaka‘ako Improvement District 3 area) (approx. 100 m <i>mauka</i> of project alignment)	Douglas 1991a and b; Winieski and Hammatt 2000a	-4380	130-150; Burial 8 at 180	Archaeological monitoring	In situ (7); disturbed (2)	Extended (2); coffin (1); flexed (2); unknown (4)	Intact (1); partial (3); dispersed (2); unknown (3)	Pre-Contact (2); post-Contact (3); unknown (4)	9	Nine pre- and post-Contact human burials were found within the Pohulani Elderly Rental Housing project area. Burials included 4 females, 1 male, and 3 undetermined. Burial 8 was a deeper flexed internment in beach sand of a female, aged 17-22 yrs. Burial 9 was a deeper flexed internment in beach sand of an individual aged 14-16 yrs of Polynesian descent.
N side of Mother Waldron Park (Kaka‘ako Improvement District 3 area) (in the project alignment)	Douglas 1991a; Winieski and Hammatt 2000a	-5820	125-145	Archaeological monitoring at the Kaka‘ako ID-3 area	In situ (3); disturbed (1)	Flexed (3); unknown (1)	Intact (2); partial (1); fragments (1)	Pre-Contact (3); unknown (1)	4	Four burials were identified, three of which were fully flexed. Burial 1 was fully flexed in beach sand, and possibly associated with a pig burial. The individual was aged 40-45 yrs, of Polynesian descent, and had cranial deformation. Burial 4 was oriented to the east and contained a sennit cord wrapped which had been used to bind the remains in a flexed position.

General Location	Reference	Site # 50-80-14-	Depth (cmbs)	How Found	Burial Condition	Burial Traits	Condition/ Preservation	Pre-Contact/ Post-Contact	MNI	Description of Find
Halekauwila St. at Coral St. (Kaka‘ako Improvement District 3 area) (burials <i>mauka</i> of Mother Waldron Park in project alignment)	Winieski and Hammatt 2000a	-5820	120-140	Backhoe trenching	In situ (2); disturbed (2)	Extended (1); flexed (1); unknown (2)	Intact (1); partial (1); fragments (2)	Unknown (4)	4	Four burials were identified. Burial 3 was heavily disturbed, but an articulated portion was in a supine, extended position. Burial 4 was largely complete, fully-flexed, and lying on its right side.
Halekauwila St. at Cooke St. (Burial Site Component of a Data Recovery Plan) (inadvertent discovery during excavation of postholes for a above ground transformer box)	Dagher and Spear 2013 (in progress)	-7260	Unknown	Posthole excavation	In situ (disturbed by posthole) (1)	Unknown	Partial	Pre-Contact	1	During manual posthole excavation human skeletal remains were identified in the backdirt. A partial set of displaced in situ human skeletal remains (30%) was recovered. The remaining 70 % was not located. Burial position unknown. Remains appeared to belong to a subadult, 16-19 years of age and of native Hawaiian ancestry.
Queen Emmalani Tower Project, bordered by South, Queen, Emily, and Kawaiaha‘o Sts. (250 m NE of project alignment)	Kawachi 1991	-1604	Unknown	Found in backdirt pile during construction	Disturbed (1)	Unknown (1)	Fragments (1)	Unknown (1)		A human skull was found in a backdirt pile. Remains appeared to belong to a young adult female.
Queen Emmalani Tower Project, bordered by South, Queen, Emily, and Kawaiaha‘o Sts. (250 m NE of project alignment)	Perzinski, Tulchin, and Hammatt 2005	-1604	200 and 60	AIS with subsurface testing	Disturbed	Unknown	Dispersed; fragments	Unknown	2	Two human burial isolated finds were uncovered. This included one mandible in disturbed natural sediment, and one femur in historic fill. Remains possibly originated from outside area of discovery, indicated by historic fill layers.
Victoria Ward Village Shops (approx. 100 m SW of project alignment)	Bell, McDermott, and O’Leary 2006	-6854	70-120	AIS	In situ (5)	Flexed (3); unknown (2)	Intact (2); partial (2); fragments (1)	Pre-Contact (5)	5	SIHP 50-80-14-6854 is a subsurface cultural layer containing both historic and prehistoric cultural material and 5 pre-Contact, traditional Hawaiian human burials. Remains were placed directly into the earth in flexed/semi-flexed positions.

General Location	Reference	Site # 50-80-14-	Depth (cmbs)	How Found	Burial Condition	Burial Traits	Condition/ Preservation	Pre-Contact/ Post-Contact	MNI	Description of Find
Victoria Ward Village Shops (approx. 100 m SW of project alignment)	Bell, McDermott, and O’Leary 2006	-6855	70-105	AIS	In situ (4); disturbed (2)	Flexed (3); unknown (3)	Intact (2); partial (2); dispersed (1); fragments (1)	Pre-Contact (6)	6	SIHP 50-80-14-6855 is a pre-Contact traditional Hawaiian cultural layer with 6 human burials in Jaucas sand deposits. Unlike -6854, these burials were in defined burial pits.
Victoria Ward Village Shops (approx. 100 m SW of project alignment)	McDermott 2011	-6854	70-123	Found while implementing BTP disinterment and during archaeological monitoring	In situ (7); disturbed (11); unknown (6)	Flexed (3+)	Intact (7); partial (?); dispersed (4); fragments (7); unknown (6)	Pre-Contact	23	SIHP 50-80-14-6854, a subsurface cultural layer/activity area remnant, contains an immature pig skeleton, historic privy remnants, remnants of a culturally enriched A-horizon (containing both historic and prehistoric cultural material), 5 previously identified human burials, and 23 inadvertent burial finds.
Victoria Ward Village Shops (approx. 100 m SW of project alignment)	McDermott 2011	-6855	55-123	Found inadvertently while implementing BTP (disinterment) and during archaeological monitoring	In situ (7); disturbed (5); unknown (19)	Flexed	Intact (2); partial (5); dispersed (3); fragments (1); unknown (19)	Pre-Contact	31	SIHP 50-80-14-6855 contains a pronounced subsurface traditional Hawaiian cultural layer including numerous pit features, 6 previously identified human burials, and 31 inadvertent burial finds.
Queen St. extension, 70 m SE of Kamake‘e St. (Kaka‘ako Community Development Improvement District 10) (in project alignment)	O’Hare, Bush, and Hammatt 2006	-6658; -6659	88-118	Monitoring for the Queen Street Extension Project	In situ (23); disturbed (7)	Extended (6); coffin (13); flexed (2); semi-flexed (2); bundled (2); unknown (5)	Intact (25); dispersed (3); fragments (3)	Pre-Contact or early Post-Contact (6); Post-Contact (19); unknown (5)	28	Excavation identified 28 burials within a cemetery used primarily by Native Hawaiians in the nineteenth century (SIHP 50-80-14-6658). The burials were distributed in three clusters. Remains were of 8 females, 10 males, and 10 undetermined. Burials were found in association with numerous historic artifacts, including ceramic cups, bottles, buttons, beads, and earrings. A unique whale ivory <i>lei niho palaoa</i> pendant was also discovered in a juvenile bundle burial. Additionally two isolated, heavily fragmented burials were identified over 100 m from the cemetery. These remains were designated as SIHP 50-80-14-6658.
Kamake‘e St. midway between Waimanu and Kawaiaha‘o Sts. (part of Kaka‘ako Improvement District 4) (123 m NE of project alignment)	Winieski and Hammatt 2000b	-5598	90	Archaeological monitoring	In situ (2)	Coffin (2)	Intact (2)	Post Contact (2)	2	Two isolated historic coffin burials were found while monitoring for construction. The burials were adjacent to each other and located in undisturbed beach sand deposits. Remains of Burial 1 were fully extended in a supine position. Burials were originally interred in wooden coffins.

General Location	Reference	Site # 50-80-14-	Depth (cmbs)	How Found	Burial Condition	Burial Traits	Condition/ Preservation	Pre-Contact/ Post-Contact	MNI	Description of Find
Ko‘olani Phase 1 on <i>makai</i> side of Waimanu St., mid-block between Kamake‘e and Pi‘ikoi Sts. (approx. 150 m SE of project alignment)	Hammatt 2008	-6910	78	Archaeological monitoring	In situ (1)	Flexed (1)	Intact (1)	Pre-contact (1)	1	A single burial of a pre-Contact juvenile of likely Polynesian ancestry. The individual was interred upright in fully flexed position within fine calcareous sand.
Ko‘olani Phase 1 on <i>makai</i> side of Waimanu St., mid-block between Kamake‘e and Pi‘ikoi Sts. (approx. 150 m SE of project alignment)	Hammatt 2008	-6911	Un-known	Archaeological monitoring	In situ (16); disturbed (1)	Coffin (15); unknown (1)	Intact (15); fragments (1)	Post Contact (16)	16	A cluster of 16 burials, 15 in wooden coffins. One individual was buried with a boot that had green glass grommets.
Ko‘olani Phase 1 on <i>makai</i> side of Waimanu St., mid-block between Kamake‘e and Pi‘ikoi Sts. (approx. 150 m SE of project alignment)	Hammatt 2008	-6912	60-75	Archaeological monitoring	In situ (1)	Extended (1)	Partial (1); poor condition	Unknown (1)	1	A single, extended burial representing an adult male.
Phase II Ko‘olani Condominiums project (approx. 100 m S of project alignment)	Runyon et al. 2011	-7117	100-167	AIS	In situ (13); disturbed (9); reburial (2); unknown (3)	Coffin (20); extended (5); fetal (2); unknown (1)	Intact (13); partial (12); fragments (2)	Post-Contact (27)	27	Cluster of 27 post-Contact burials, the majority in an extended position (21) and originally interred in coffins (20). Burials included 20 adults, 3 sub-adults, and 4 infants. Two of the infants were buried in the fetal position without coffins.
Corner of Pi‘ikoi St. and Kapi‘olani Blvd. (115 m NE of project alignment)	Athens et al. 1994	-4847	80-135	Inadvertently found during construction activities	In situ (1)	Unknown (1)	Intact (1)	Pre-Contact (1)	1	Pre-Contact burial of a single adolescent female, aged 12-15 yrs of probable Hawaiian/Polynesian ancestry, interred in wetlands area. Date of death between thirteenth and fifteenth centuries, c. AD 1450.

General Location	Reference	Site # 50-80-14-	Depth (cmbs)	How Found	Burial Condition	Burial Traits	Condition/ Preservation	Pre-Contact/ Post-Contact	MNI	Description of Find
1341 Kapi‘olani Ave. (just <i>mauka</i> of Kona St., 80 m E of Pi‘ikoi St.) (28 m NE of project alignment)	Smith 1989	-4243	Un-known	Found at construction site	Unknown	Dispersed	Fragment	Unknown	1	Inadvertent burial find consisting of one femoral fragment.
Sam’s Club on Ke‘eaumoku St. (southwest corner of project area corner of Sheridan and Makaloa Streets)	McElroy 2010	-6516	Not given	Archaeological monitoring	In situ (23); disturbed (4)	Extended (19); flexed (4); disturbed (4)	Intact (23); disturbed (4)	Pre-Contact (4); Post-Contact (19)	27	BFS (Burial Findspot) 1:Dense cluster of post-Contact burials (19), likely from the 1853 smallpox epidemic, in extended positions. Four flexed burials possibly pre-date those in extended position. Four burials were disturbed and the original interment context undetermined. BFS 3: Four clusters of previously disturbed human remains possibly secondarily reinterred. BFS 4: six clusters of human remains, consisting of in situ and displaced burials. 5 adults and 2 subadults identified. 2 flexed burials. BFS 5: 1 individual, completely displaced during excavation, identified as a 4-6 year old child.
					Disturbed	Disturbed	Disturbed	Unknown	19	
					In situ / Disturbed	Disturbed	Disturbed	Unknown	14	
					Disturbed	Disturbed	Disturbed	Unknown	1	
Sam’s Club on Ke‘eaumoku St. (northwest corner of project area along Sheridan St. near Rycroft St.)	McElroy 2010	-6661	Not given	Archaeological monitoring	Secondary	Unknown	Disturbed	Unknown	1	BFS 2: Secondary burial of a previously disturbed burial containing a femur and tibia along with butchered cow bone.
Sam’s Club on Ke‘eaumoku St. (northwest corner of project area along Sheridan St. near Rycroft St.)	McElroy 2010	-6662	Not given	Archaeological monitoring		Flexed	In situ (1)	Likely pre-Contact	1	BFS 6: 1 individual partially disturbed by construction excavation. Flexed burial just below a sand layer.

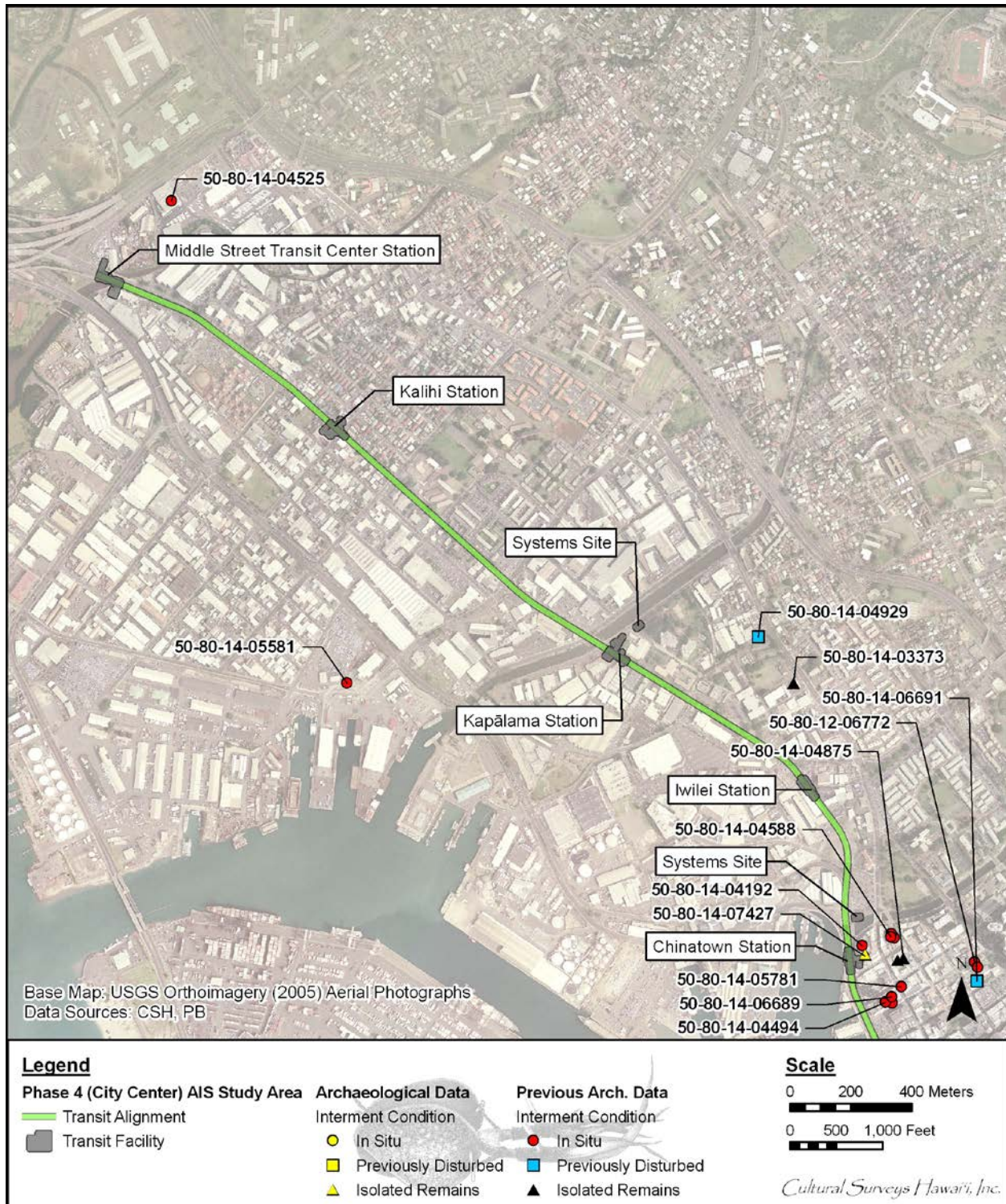


Figure 77. Human skeletal remains documented in the western half of the City Center corridor by burial condition (base map: U.S.G.S. orthoimagery 2005)

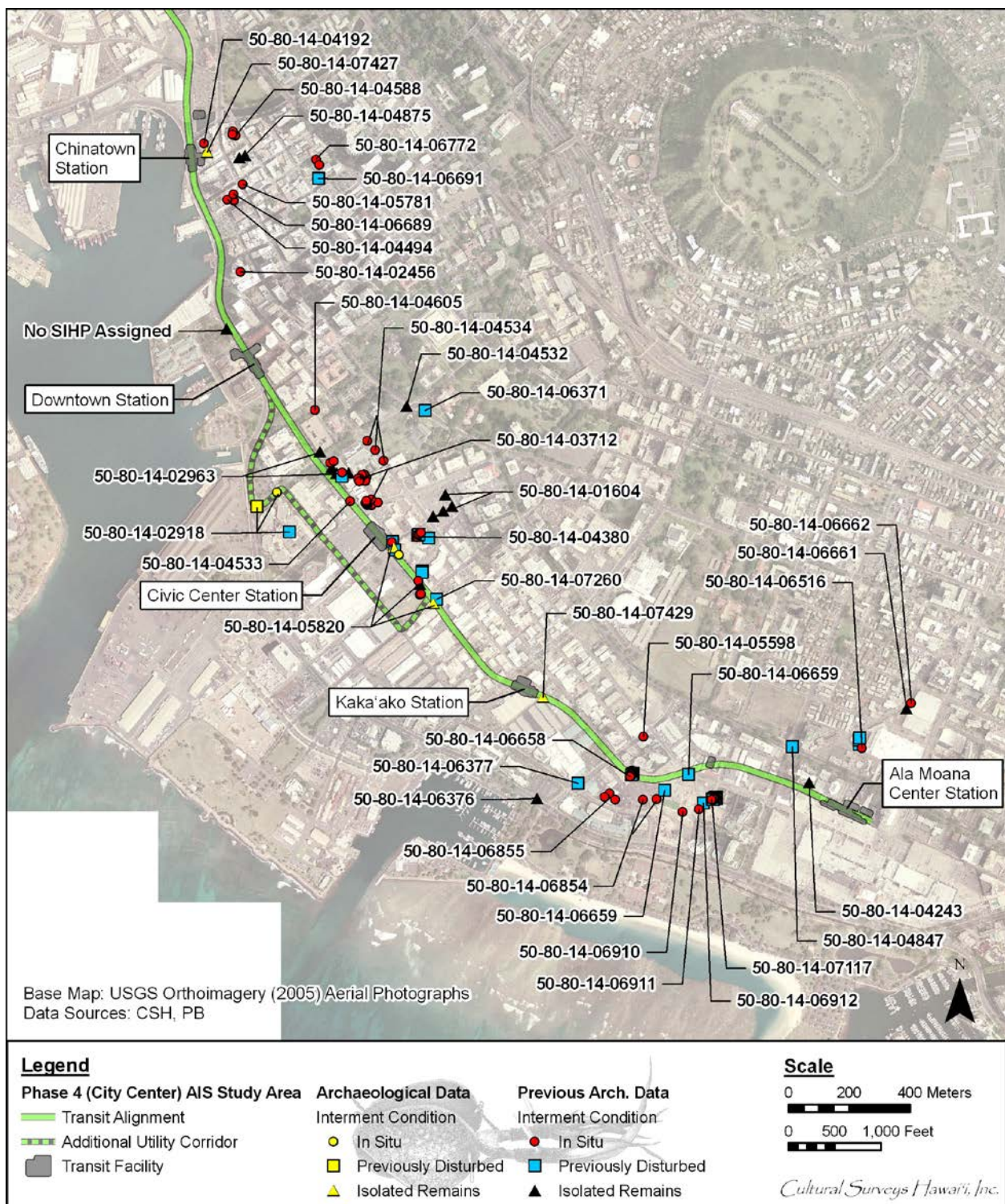


Figure 78. Human skeletal remains documented in the eastern half of the City Center corridor by burial condition (base map: U.S.G.S. orthoimagery 2005)